



Nick Fish, Commissioner
David G. Shaff, Administrator
1120 SW 5th Avenue, Room 600
Portland, Oregon 97204-1926
Information: 503-823-7404
www.portlandoregon.gov/water



An Equal Opportunity Employer

DATE: February 6, 2014

WQ 0.10.14.4

TO: Oregon Health Authority
Environmental Public Health
Drinking Water Program

**SUBJECT: Monthly Report for January 2014
Bull Run Treatment Variance
Intake *Cryptosporidium* Results
PWS # 4100657**

To Whom It May Concern:

Enclosed are results of laboratory analyses for *Cryptosporidium* from the Bull Run raw water intake for January. Monitoring for *Cryptosporidium* at the Bull Run intake is done to comply with the conditions of Portland's Bull Run Treatment Variance (OHA Final Order, March 14, 2012). PWB is currently in Observation Monitoring. Compliance turbidity readings at the intake for the reporting month were not greater than 2.0 NTU.

Clancy Environmental – Tetra Tech, Inc. completed the analysis for *Cryptosporidium* (see attached report). A summary of the results for the reporting month and the previous eleven months is shown in the table below:

***Cryptosporidium* Data Summary for the Reporting Month and the Previous Eleven Months.**

Date Range		Total Field Samples	Total Field Sample Volume (L)	Total No. Oocysts Counted in Field Samples	Total Matrix Spikes	Average Matrix Spike Recovery (%)
Reporting Month:	1/1/2014-1/31/2014	8	399.9	0	1	62.0
Previous 11 Months:	2/1/2013-12/31/2013	234	5325.4	0	28	47.3

If you have any questions regarding these results, please contact me at 503-823-6135.

Sincerely,

Ann Richter
Environmental Program Manager

Transmitted: Two pages (including this transmittal memo) emailed to dwp.dmce@state.or.us on this date.



Clancy Environmental – Tetra Tech

20 Mapleville Depot, Saint Albans, VT 05478 USA
 802.527.2460 Fax: 802.524.3909

Cryptosporidium Laboratory Analysis Report

Water System Information		Sample Information	
PWS ID:	OR4100657	Collection Month & Year:	January 2014
PWS Name:	Portland Water Bureau 1900 N Interstate Avenue Portland, Oregon 97227	Report Date:	January 30, 2014
County:	Multnomah	Monitoring Regime:	Observation
		Source Water:	Bull Run Intake

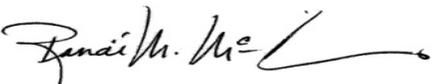
Clancy Environmental - a Tetra Tech, Inc. company

PWB Sample ID	Loc ID	Sample Collection Date	Sample Type	Sample Volume Filtered (L)	No. of Oocysts Spiked	No. of Oocysts Counted	No. Oocysts per Liter	Matrix Spike Recovery (%)	Analysis Method
BB35599	2P	1/5/2014	Field	50.0	0	0	0.00	-	1623
BB35591	2P	1/7/2014	Field	50.0	0	0	0.00	-	1623
BB35592	2P	1/7/2014	Matrix Spike	51.0	100	62	1.22	62.0	1623
BB35733	2P	1/12/2014	Field	50.0	0	0	0.00	-	1623
BB35789	2P	1/14/2014	Field	50.0	0	0	0.00	-	1623
BB35930	2P	1/19/2014	Field	50.0	0	0	0.00	-	1623
BB35953	2P	1/21/2014	Field	50.0	0	0	0.00	-	1623
BB36030	2P	1/26/2014	Field	50.0	0	0	0.00	-	1623
BB36093	2P	1/28/2014	Field	49.9	0	0	0.00	-	1623

NOTES:

Data Quality Statement:

All data reported above, unless otherwise noted, were generated in accordance with EPA Method 1623.

Reviewed by 

Date Reviewed: Thursday, January 30, 2014



Nick Fish, Commissioner
David G. Shaff, Administrator
1120 SW 5th Avenue, Room 600
Portland, Oregon 97204-1926
Information: 503-823-7404
www.portlandoregon.gov/water



An Equal Opportunity Employer

DATE: March 6, 2014

WQ 0.10.14.4

TO: Oregon Health Authority
Environmental Public Health
Drinking Water Program

**SUBJECT: Monthly Report for February 2014
Bull Run Treatment Variance
Intake *Cryptosporidium* Results
PWS # 4100657**

To Whom It May Concern:

Enclosed are results of laboratory analyses for *Cryptosporidium* from the Bull Run raw water intake for February. Monitoring for *Cryptosporidium* at the Bull Run intake is done to comply with the conditions of Portland's Bull Run Treatment Variance (OHA Final Order, March 14, 2012). PWB is currently in Observation Monitoring. Compliance turbidity readings at the intake for the reporting month were not greater than 2.0 NTU.

Clancy Environmental – Tetra Tech, Inc. completed the analysis for *Cryptosporidium* (see attached report). A summary of the results for the reporting month and the previous eleven months is shown in the table below:

***Cryptosporidium* Data Summary for the Reporting Month and the Previous Eleven Months.**

Date Range		Total Field Samples	Total Field Sample Volume (L)	Total No. Oocysts Counted in Field Samples	Total Matrix Spikes	Average Matrix Spike Recovery (%)
Reporting Month:	2/1/2014-2/28/2014	8	400.0	0	1	31.0
Previous 11 Months:	3/1/2013-1/31/2014	234	5325.7	0	28	48.2

If you have any questions regarding these results, please contact me at 503-823-6135.

Sincerely,

Ann Richter
Environmental Program Manager

Transmitted: Two pages (including this transmittal memo) emailed to dwp.dmce@state.or.us on this date.



Clancy Environmental – Tetra Tech

20 Mapleville Depot, Saint Albans, VT 05478 USA
 802.527.2460 Fax: 802.524.3909

Cryptosporidium Laboratory Analysis Report

<u>Water System Information</u>		<u>Sample Information</u>	
PWS ID:	OR4100657	Collection Month & Year:	February 2014
PWS Name:	Portland Water Bureau 1900 N Interstate Avenue Portland, Oregon 97227	Report Date:	February 27, 2014
County:	Multnomah	Monitoring Regime:	Observation
		Source Water:	Bull Run Intake

Clancy Environmental - a Tetra Tech, Inc. company

PWB Sample ID	Loc ID	Sample Collection Date	Sample Type	Sample Volume Filtered (L)	No. of Oocysts Spiked	No. of Oocysts Counted	No. Oocysts per Liter	Matrix Spike Recovery (%)	Analysis Method
BB36296	2P	2/2/2014	Field	50.0	0	0	0.00	-	1623
BB36299	2P	2/4/2014	Field	50.0	0	0	0.00	-	1623
BB36300	2P	2/4/2014	Matrix Spike	50.5	100	31	0.61	31.0	1623
BB36365	2P	2/9/2014	Field	50.0	0	0	0.00	-	1623
BB36530	2P	2/11/2014	Field	50.0	0	0	0.00	-	1623
BB36605	2P	2/16/2014	Field	50.0	0	0	0.00	-	1623
BB36607	2P	2/18/2014	Field	50.0	0	0	0.00	-	1623
BB36737	2P	2/23/2014	Field	50.0	0	0	0.00	-	1623
BB36813	2P	2/25/2014	Field	50.0	0	0	0.00	-	1623

Notes:

Data Quality Statement:

All data reported above, unless otherwise noted, were generated in accordance with EPA Method 1623.

Reviewed by 

Date Reviewed: Thursday, February 27, 2014



Nick Fish, Commissioner
David G. Shaff, Administrator

1120 SW 5th Avenue, Room 600
Portland, Oregon 97204-1926
Information: 503-823-7404
www.portlandoregon.gov/water



An Equal Opportunity Employer

DATE: April 8, 2014

WQ 0.10.14.4

TO: Oregon Health Authority
Environmental Public Health
Drinking Water Program

**SUBJECT: Monthly Report for March 2014
Bull Run Treatment Variance
Intake *Cryptosporidium* Results
PWS # 4100657**

To Whom It May Concern:

Enclosed are results of laboratory analyses for *Cryptosporidium* from the Bull Run raw water intake for March. Monitoring for *Cryptosporidium* at the Bull Run intake is done to comply with the conditions of Portland's Bull Run Treatment Variance (OHA Final Order, March 14, 2012). PWB is currently in Observation Monitoring. Compliance turbidity readings at the intake for the reporting month were not greater than 2.0 NTU.

Clancy Environmental – Tetra Tech, Inc. completed the analysis for *Cryptosporidium* (see attached report). A summary of the results for the reporting month and the previous eleven months is shown in the table below:

***Cryptosporidium* Data Summary for the Reporting Month and the Previous Eleven Months.**

Date Range		Total Field Samples	Total Field Sample Volume (L)	Total No. Oocysts Counted in Field Samples	Total Matrix Spikes	Average Matrix Spike Recovery (%)
Reporting Month:	3/1/2014-3/31/2014	9	450.0	0	1	66.3
Previous 11 Months:	4/1/2013-2/28/2014	233	5275.6	0	27	46.4

If you have any questions regarding these results, please contact me at 503-823-6135.

Sincerely,

Ann Richter
Environmental Program Manager

Transmitted: Two pages (including this transmittal memo) emailed to dwp.dmce@state.or.us on this date.



Cryptosporidium Laboratory Analysis Report

<u>Water System Information</u>				<u>Sample Information</u>			
PWS ID:	OR4100657			Collection Month & Year:	March 2014		
PWS Name:	Portland Water Bureau 1900 N Interstate Avenue Portland, Oregon 97227			Report Date:	April 2, 2014		
County:	Multnomah			Monitoring Regime:	Observation		
				Source Water:	Bull Run Intake		

Clancy Environmental - a Tetra Tech, Inc. company

PWB Sample ID	Loc ID	Sample Collection Date	Sample Type	Sample Volume Filtered (L)	No. of Oocysts Spiked	No. of Oocysts Counted	No. Oocysts per Liter	Matrix Spike Recovery (%)	Analysis Method
BB37018	2P	3/2/2014	Field	50.0	0	0	0.00	-	1623
BB37064	2P	3/4/2014	Field	50.0	0	0	0.00	-	1623
BB37065	2P	3/4/2014	Matrix Spike	51.3	98	65	1.27	66.3	1623
BB37139	2P	3/9/2014	Field	50.0	0	0	0.00	-	1623
BB37237	2P	3/11/2014	Field	50.0	0	0	0.00	-	1623
BB37418	2P	3/16/2014	Field	50.0	0	0	0.00	-	1623
BB37464	2P	3/18/2014	Field	50.0	0	0	0.00	-	1623
BB37578	2P	3/23/2014	Field	50.0	0	0	0.00	-	1623
BB37645	2P	3/25/2014	Field	50.0	0	0	0.00	-	1623
BB37786	2P	3/30/2014	Field	50.0	0	0	0.00	-	1623

Notes:

Data Quality Statement:

All data reported above, unless otherwise noted, were generated in accordance with EPA Method 1623.

Reviewed by _____

Date Reviewed: 2-Apr-2014



Nick Fish, Commissioner
David G. Shaff, Administrator
1120 SW 5th Avenue, Room 600
Portland, Oregon 97204-1926
Information: 503-823-7404
www.portlandoregon.gov/water



An Equal Opportunity Employer

DATE: May 7, 2014

WQ 0.10.14.4

TO: Oregon Health Authority
Environmental Public Health
Drinking Water Program

**SUBJECT: Monthly Report for April 2014
Bull Run Treatment Variance
Intake *Cryptosporidium* Results
PWS # 4100657**

To Whom It May Concern:

Enclosed are results of laboratory analyses for *Cryptosporidium* from the Bull Run raw water intake for April. Monitoring for *Cryptosporidium* at the Bull Run intake is done to comply with the conditions of Portland's Bull Run Treatment Variance (OHA Final Order, March 14, 2012). PWB is currently in Observation Monitoring. Compliance turbidity readings at the intake for the reporting month were not greater than 2.0 NTU.

Clancy Environmental – Tetra Tech, Inc. completed the analysis for *Cryptosporidium* (see attached report). A summary of the results for the reporting month and the previous eleven months is shown in the table below:

***Cryptosporidium* Data Summary for the Reporting Month and the Previous Eleven Months.**

Date Range		Total Field Samples	Total Field Sample Volume (L)	Total No. Oocysts Counted in Field Samples	Total Matrix Spikes	Average Matrix Spike Recovery (%)
Reporting Month:	4/1/2014-4/30/2014	9	450.0	0	2	54.1
Previous 11 Months:	5/1/2013-3/31/2014	233	5275.7	0	26	45.7

If you have any questions regarding these results, please contact me at 503-823-6135.

Sincerely,

Ann Richter
Environmental Program Manager

Transmitted: Two pages (including this transmittal memo) emailed to dwp.dmce@state.or.us on this date.



Cryptosporidium Laboratory Analysis Report

<u>Water System Information</u>		<u>Sample Information</u>	
PWS ID:	OR4100657	Collection Month & Year:	April 2014
PWS Name:	Portland Water Bureau 1900 N Interstate Avenue Portland, Oregon 97227	Report Date:	April 30, 2014
County:	Multnomah	Monitoring Regime:	Observation
		Source Water:	Bull Run Intake

Clancy Environmental - a Tetra Tech, Inc. company

PWB Sample ID	Loc ID	Sample Collection Date	Sample Type	Sample Volume Filtered (L)	No. of Oocysts Spiked	No. of Oocysts Counted	No. Oocysts per Liter	Matrix Spike Recovery (%)	Analysis Method
BB37774	2P	4/1/2014	Field	50.0	0	0	0.00	-	1623
BB37770	2P	4/1/2014	Matrix Spike	51.0	99	60	1.18	60.6	1623
BB37974	2P	4/6/2014	Field	50.0	0	0	0.00	-	1623
BB38038	2P	4/8/2014	Field	50.0	0	0	0.00	-	1623
BB38255	2P	4/13/2014	Field	50.0	0	0	0.00	-	1623
BB38303	2P	4/15/2014	Field	50.0	0	0	0.00	-	1623
BB38436	2P	4/20/2014	Field	50.0	0	0	0.00	-	1623
BB38569	2P	4/22/2014	Field	50.0	0	0	0.00	-	1623
BB38851	2P	4/27/2014	Field	50.0	0	0	0.00	-	1623
BB38907	2P	4/29/2014	Field	50.0	0	0	0.00	-	1623
BB38906	2P	4/29/2014	Matrix Spike	51.0	99	47	0.92	47.5	1623

Notes:

Data Quality Statement:

All data reported above, unless otherwise noted, were generated in accordance with EPA Method 1623.

Reviewed by 

Date Reviewed: 30-Apr-2014



Nick Fish, Commissioner
David G. Shaff, Administrator
1120 SW 5th Avenue, Room 600
Portland, Oregon 97204-1926
Information: 503-823-7404
www.portlandoregon.gov/water



An Equal Opportunity Employer

DATE: June 5, 2014

WQ 0.10.14.4

TO: Oregon Health Authority
Environmental Public Health
Drinking Water Program

**SUBJECT: Monthly Report for May 2014
Bull Run Treatment Variance
Intake *Cryptosporidium* Results
PWS # 4100657**

To Whom It May Concern:

Enclosed are results of laboratory analyses for *Cryptosporidium* from the Bull Run raw water intake for May. Monitoring for *Cryptosporidium* at the Bull Run intake is done to comply with the conditions of Portland's Bull Run Treatment Variance (OHA Final Order, March 14, 2012). PWB is currently in Observation Monitoring. Compliance turbidity readings at the intake for the reporting month were not greater than 2.0 NTU.

BioVir Laboratories, Inc. completed the analysis for *Cryptosporidium* (see attached report). A summary of the results for the reporting month and the previous eleven months is shown in the table below:

***Cryptosporidium* Data Summary for the Reporting Month and the Previous Eleven Months.**

Date Range		Total Field Samples	Total Field Sample Volume (L)	Total No. Oocysts Counted in Field Samples	Total Matrix Spikes	Average Matrix Spike Recovery (%)
Reporting Month:	05/01/2014-05/31/2014	8	400.0	0	2	34.1
Previous 11 Months:	06/01/2013-04/30/2014	234	5325.6	0	26	46.7

If you have any questions regarding these results, please contact me at 503-823-6135.

Sincerely,

Ann Richter
Environmental Program Manager

Transmitted: Two pages (including this transmittal memo) emailed to dwp.dmce@state.or.us on this date.



BIOVIR LABORATORIES, INC.
 685 Stone Road, Unit 6
 Benicia, CA 94510
 1-800-GIARDIA (442-7342)

Cryptosporidium Laboratory Analysis Report

<u>Water System Information</u>		<u>Sample Information</u>	
PWS ID:	OR4100657	Collection Month & Year:	May 2014
PWS Name:	Portland Water Bureau 1900 N Interstate Avenue Portland, Oregon 97227	Report Date:	June 3, 2014
County:	Multnomah	Monitoring Regime:	Observation
		Source Water:	Bull Run Intake

BioVir Laboratories, Inc.

PWB Sample ID	Loc ID	Sample Collection Date	Sample Type	Sample Volume Filtered (L)	No. of Oocysts Spiked	No. of Oocysts Counted	No. Oocysts per Liter	Matrix Spike Recovery (%)	Analysis Method
BB39043	2P	5/4/2014	Field	50.0	0	0	0.00		1623
BB39042	2P	5/4/2014	Matrix Spike	51.0	99	16	0.31	16.2%	1623
BB39164	2P	5/6/2014	Field	50.0	0	0	0.00		1623
BB39604	2P	5/11/2014	Field	50.0	0	0	0.00		1623
BB39602	2P	5/13/2014	Field	50.0	0	0	0.00		1623
BB39771	2P	5/18/2014	Field	50.0	0	0	0.00		1623
BB39941	2P	5/20/2014	Field	50.0	0	0	0.00		1623
BB40183	2P	5/26/2014	Field	50.0	0	0	0.00		1623
BB40096	2P	5/27/2014	Field	50.0	0	0	0.00		1623
BB40100	2P	5/27/2014	Matrix Spike	50.8	100	52	1.02	52.0%	1623

Notes:

Data Quality Statement:

All data reported above, unless otherwise noted, were generated in accordance with EPA Method 1623.

Reviewed by : 

Date Reviewed: 3-Jun-2014



Nick Fish, Commissioner
David G. Shaff, Administrator

1120 SW 5th Avenue, Room 600
Portland, Oregon 97204-1926
Information: 503-823-7404
www.portlandoregon.gov/water



An Equal Opportunity Employer

DATE: July 10, 2014

WQ 0.10.14.4

TO: Oregon Health Authority
Environmental Public Health
Drinking Water Program

**SUBJECT: Monthly Report for June 2014
Bull Run Treatment Variance
Intake *Cryptosporidium* Results
PWS # 4100657**

To Whom It May Concern:

Enclosed are results of laboratory analyses for *Cryptosporidium* from the Bull Run raw water intake for June. Monitoring for *Cryptosporidium* at the Bull Run intake is done to comply with the conditions of Portland's Bull Run Treatment Variance (OHA Final Order, March 14, 2012). PWB is currently in Observation Monitoring. One compliance turbidity reading was greater than 2.0 NTU on June 28th. A sample was collected for this day (see the attached Turbidity-based Sampling Report).

BioVir Laboratories, Inc. and Analytical Services, Inc. completed the analysis for *Cryptosporidium* (see attached reports). A summary of the results for the reporting month and the previous eleven months is shown in the table below:

***Cryptosporidium* Data Summary for the Reporting Month and the Previous Eleven Months.**

Date Range		Total Field Samples	Total Field Sample Volume (L)	Total No. Oocysts Counted in Field Samples	Total Matrix Spikes	Average Matrix Spike Recovery (%)
Reporting Month:	06/01/2014-06/30/2014	10	500.1	0	3	30.3
Previous 11 Months:	07/01/2013-05/31/2014	233	5275.6	0	26	46.3

If you have any questions regarding these results, please contact me at 503-823-6135.

Sincerely,

Ann Richter
Environmental Program Manager

Transmitted: Four pages (including this transmittal memo) emailed to dwp.dmce@state.or.us on this date.

Bull Run Treatment Variance Turbidity-based Sampling Report

PWS Name: Portland Water Bureau

ID #: OR4100657

Month/Year: 06/2014

Notes: Highest compliance readings are from the Turbidity Monitoring Report submitted with the Surface Water Treatment Rule monthly report.

DAY	Highest Compliance Reading (NTU)	50-L Sample Required?	Sample ID(s)
6/1/2014	0.38	No	N/A
6/2/2014	0.33	No	N/A
6/3/2014	0.28	No	N/A
6/4/2014	0.56	No	N/A
6/5/2014	0.31	No	N/A
6/6/2014	0.26	No	N/A
6/7/2014	0.23	No	N/A
6/8/2014	0.28	No	N/A
6/9/2014	0.27	No	N/A
6/10/2014	1.37	No	N/A
6/11/2014	0.28	No	N/A
6/12/2014	0.27	No	N/A
6/13/2014	0.28	No	N/A
6/14/2014	0.22	No	N/A
6/15/2014	0.25	No	N/A
6/16/2014	0.23	No	N/A
6/17/2014	0.24	No	N/A
6/18/2014	0.27	No	N/A
6/19/2014	0.24	No	N/A
6/20/2014	0.24	No	N/A
6/21/2014	0.26	No	N/A
6/22/2014	0.58	No	N/A
6/23/2014	0.26	No	N/A
6/24/2014	0.26	No	N/A
6/25/2014	0.26	No	N/A
6/26/2014	0.27	No	N/A
6/27/2014	0.28	No	N/A
6/28/2014	4.04	Yes	BB41731
6/29/2014	0.27	No	N/A
6/30/2014	0.26	No	N/A



BIOVIR LABORATORIES
 685 Stone Road, Unit 6
 Benicia, CA 94510
 1-800-GIARDIA (442-7342)

Cryptosporidium Laboratory Analysis Report

<u>Water System Information</u>		<u>Sample Information</u>	
PWS ID:	OR4100657	Collection Month & Year:	June 2014
PWS Name:	Portland Water Bureau 1900 N Interstate Avenue Portland, Oregon 97227	Report Date:	July 2, 2014
County:	Multnomah	Monitoring Regime:	Observation
		Source Water:	Bull Run Intake

BioVir Laboratories, Inc.

PWB Sample ID	Loc ID	Sample Collection Date	Sample Type	Sample Volume Filtered (L)	No. of Oocysts Spiked	No. of Oocysts Counted	No. Oocysts per Liter	Matrix Spike Recovery (%)	Analysis Method
BB40412	2PIS	6/1/2014	Field	50.0	0	0	0.00		1623
BB40480	2PIS	6/3/2014	Field	50.0	0	0	0.00		1623
BB40745	2PIS	6/8/2014	Field	50.0	0	0	0.00		1623
BB40770	2PIS	6/10/2014	Field	50.0	0	0	0.00		1623
BB40771	2PIS	6/10/2014	Matrix Spike	51.0	100	46	0.90	46.0%	1623

Notes:

Data Quality Statement:

All data reported above, unless otherwise noted, were generated in accordance with EPA Method 1623.

Reviewed by : Liz Barriga

Date Reviewed: 2-Jul-2014



Microbiological Testing, Research & Consulting
 130 Allen Brook Ln., Williston VT 05495

Cryptosporidium Laboratory Analysis Report

<u>Water System Information</u>		<u>Sample Information</u>	
PWS ID:	OR4100657	Collection Month & Year:	June 2014
PWS Name:	Portland Water Bureau 1900 N Interstate Avenue Portland, Oregon 97227	Report Date:	July 7, 2014
County:	Multnomah	Monitoring Regime:	Observation
		Source Water:	Bull Run Intake - WTP-A

Analytical Services, Inc. (ASI)

PWB Sample ID	Loc ID	Sample Collection Date	Sample Type	Sample Volume Filtered (L)	No. of Oocysts Spiked	No. of Oocysts Counted	No. Oocysts per Liter	Matrix Spike Recovery (%)	Analysis Method
BB41032	2PIS	6/15/2014	Field	50.0	0	0	0.00	-	EPA 1623
BB41033	2PIS	6/15/2014	MS	50.7	100	23	0.45	23.0	EPA 1623
BB41187	2PIS	6/17/2014	Field	50.0	0	0	0.00	-	EPA 1623
BB41903	2PIS	6/22/2014	Field	50.0	0	0	0.00	-	EPA 1623
BB41526	2PIS	6/24/2014	Field	50.0	0	0	0.00	-	EPA 1623
BB41527	2PIS	6/24/2014	MS	50.8	100	22	0.43	22.0	EPA 1623
BB41731	2PIS	6/28/2014	Field	50.0	0	0	0.00	-	EPA 1623
BB41735	2PIS	6/29/2014	Field	50.1	0	0	0.00	-	EPA 1623

Notes: NA

ASI Data Quality Statement:

All data reported above, unless otherwise noted, were generated in accordance with EPA Method 1623.

Reviewed by PSWarden

Date Reviewed: July 7, 2014



Nick Fish, Commissioner
David G. Shaff, Administrator

1120 SW 5th Avenue, Room 600
Portland, Oregon 97204-1926
Information: 503-823-7404
www.portlandoregon.gov/water



An Equal Opportunity Employer

DATE: August 4, 2014

WQ 0.10.14.4

TO: Oregon Health Authority
Environmental Public Health
Drinking Water Program

**SUBJECT: Monthly Report for July 2014
Bull Run Treatment Variance
Intake *Cryptosporidium* Results
PWS # 4100657**

To Whom It May Concern:

Enclosed are results of laboratory analyses for *Cryptosporidium* from the Bull Run raw water intake for July. Monitoring for *Cryptosporidium* at the Bull Run intake is done to comply with the conditions of Portland's Bull Run Treatment Variance (OHA Final Order, March 14, 2012). PWB is currently in Observation Monitoring. Compliance turbidity readings at the intake for the reporting month were not greater than 2.0 NTU.

Analytical Services, Inc. completed the analysis for *Cryptosporidium* (see attached report). A summary of the results for the reporting month and the previous eleven months is shown in the table below:

***Cryptosporidium* Data Summary for the Reporting Month and the Previous Eleven Months.**

Date Range		Total Field Samples	Total Field Sample Volume (L)	Total No. Oocysts Counted in Field Samples	Total Matrix Spikes	Average Matrix Spike Recovery (%)
Reporting Month:	07/01/2014-07/31/2014	9	450.3	0	1	16.0
Previous 11 Months:	08/01/2013-06/30/2014	206	5281.9	0	25	42.2

If you have any questions regarding these results, please contact me at 503-823-6135.

Sincerely,

Ann Richter
Environmental Program Manager

Transmitted: Two pages (including this transmittal memo) emailed to dwp.dmce@state.or.us on this date.



Nick Fish, Commissioner
 David G. Shaff, Administrator

1120 SW 5th Avenue, Room 600
 Portland, Oregon 97204-1926
 Information: 503-823-7404
www.portlandoregon.gov/water



An Equal Opportunity Employer

DATE: September 5, 2014

WQ 0.10.14.4

TO: Oregon Health Authority
 Drinking Water Services

**SUBJECT: Monthly Report for August 2014
 Bull Run Treatment Variance
 Intake *Cryptosporidium* Results
 PWS # 4100657**

To Whom It May Concern:

Enclosed are results of laboratory analyses for *Cryptosporidium* from the Bull Run raw water intake for August. Monitoring for *Cryptosporidium* at the Bull Run intake is done to comply with the conditions of Portland's Bull Run Treatment Variance (OHA Final Order, March 14, 2012). PWB is currently in Observation Monitoring. Compliance turbidity readings at the intake for the reporting month were not greater than 2.0 NTU.

Analytical Services, Inc. completed the analysis for *Cryptosporidium* (see attached report). Please note that PWB switched to the Modified 1623 (Precoat) method on August 5, 2014. This method modification has been validated for PWB's source water in order to improve *Cryptosporidium* recovery during seasonal matrix changes. A summary of the results for the reporting month and the previous eleven months is shown in the table below:

***Cryptosporidium* Data Summary for the Reporting Month and the Previous Eleven Months.**

Date Range		Total Field Samples	Total Field Sample Volume (L)	Total No. Oocysts Counted in Field Samples	Total Matrix Spikes	Average Matrix Spike Recovery (%)
Reporting Month:	08/01/2014-08/31/2014	36	401.2	0	4	22.4
Previous 11 Months:	09/01/2013-07/31/2014	175	5278.8	0	22	44.1

If you have any questions regarding these results, please contact me at 503-823-6135.

Sincerely,

Ann Richter
 Environmental Program Manager

Transmitted: Two pages (including this transmittal memo) emailed to dwp.dmce@state.or.us on this date.



Microbiological Testing, Research & Consulting
130 Allen Brook Ln., Williston VT 05495

Cryptosporidium Laboratory Analysis Report

Water System Information		Sample Information	
PWS ID:	OR4100657	Collection Month & Year:	August 2014
PWS Name:	Portland Water Bureau 1900 N Interstate Avenue Portland, Oregon 97227	Report Date:	August 29, 2014
County:	Multnomah	Monitoring Regime:	Observation
		Source Water:	Bull Run Intake - WTP-A

Analytical Services, Inc. (ASI)

PWB Sample ID	Loc ID	Sample Collection Date	Sample Type	Sample Volume Filtered (L)	No. of Oocysts Spiked	No. of Oocysts Counted	No. Oocysts per Liter	Matrix Spike Recovery (%)	Analysis Method
BB42898	2PIS	8/3/2014	Field	50.0	0	0	0.00	-	Method 1623
BB42970	2PIS	8/5/2014	Field	10.1	0	0	0.00	-	1623-Precoat Mod.
BB42971	2PIS	8/5/2014	MS	10.1	100	20	1.98	20.0	1623-Precoat Mod.
BB42972	2PIS	8/5/2014	Field	10.1	0	0	0.00	-	1623-Precoat Mod.
BB42973	2PIS	8/5/2014	Field	10.0	0	0	0.00	-	1623-Precoat Mod.
BB42974	2PIS	8/5/2014	Field	10.1	0	0	0.00	-	1623-Precoat Mod.
BB42975	2PIS	8/5/2014	Field	10.0	0	0	0.00	-	1623-Precoat Mod.
BB43118	2PIS	8/10/2014	Field	10.0	0	0	0.00	-	1623-Precoat Mod.
BB43119	2PIS	8/10/2014	Field	10.0	0	0	0.00	-	1623-Precoat Mod.
BB43120	2PIS	8/10/2014	Field	10.0	0	0	0.00	-	1623-Precoat Mod.
BB43121	2PIS	8/10/2014	Field	10.0	0	0	0.00	-	1623-Precoat Mod.
BB43122	2PIS	8/10/2014	Field	10.0	0	0	0.00	-	1623-Precoat Mod.
BB43224	2PIS	8/12/2014	Field	10.0	0	0	0.00	-	1623-Precoat Mod.
BB43229	2PIS	8/12/2014	MS	10.0	100	19	1.90	19.0	1623-Precoat Mod.
BB43225	2PIS	8/12/2014	Field	10.1	0	0	0.00	-	1623-Precoat Mod.
BB43226	2PIS	8/12/2014	Field	10.0	0	0	0.00	-	1623-Precoat Mod.
BB43227	2PIS	8/12/2014	Field	10.0	0	0	0.00	-	1623-Precoat Mod.
BB43228	2PIS	8/12/2014	Field	10.1	0	0	0.00	-	1623-Precoat Mod.
BB43460	2PIS	8/17/2014	Field	10.0	0	0	0.00	-	1623-Precoat Mod.
BB43461	2PIS	8/17/2014	Field	10.0	0	0	0.00	-	1623-Precoat Mod.
BB43462	2PIS	8/17/2014	Field	10.0	0	0	0.00	-	1623-Precoat Mod.
BB43463	2PIS	8/17/2014	Field	10.0	0	0	0.00	-	1623-Precoat Mod.
BB43464	2PIS	8/17/2014	Field	10.1	0	0	0.00	-	1623-Precoat Mod.
BB43537	2PIS	8/19/2014	Field	10.0	0	0	0.00	-	1623-Precoat Mod.
BB43538	2PIS	8/19/2014	MS	10.0	99	32	3.19	32.3	1623-Precoat Mod.
BB43539	2PIS	8/19/2014	Field	10.1	0	0	0.00	-	1623-Precoat Mod.
BB43540	2PIS	8/19/2014	Field	10.1	0	0	0.00	-	1623-Precoat Mod.
BB43541	2PIS	8/19/2014	Field	10.1	0	0	0.00	-	1623-Precoat Mod.
BB43542	2PIS	8/19/2014	Field	10.0	0	0	0.00	-	1623-Precoat Mod.
BB43765	2PIS	8/24/2014	Field	10.0	0	0	0.00	-	1623-Precoat Mod.
BB43766	2PIS	8/24/2014	Field	10.0	0	0	0.00	-	1623-Precoat Mod.
BB43767	2PIS	8/24/2014	Field	10.0	0	0	0.00	-	1623-Precoat Mod.
BB43768	2PIS	8/24/2014	Field	10.0	0	0	0.00	-	1623-Precoat Mod.
BB43769	2PIS	8/24/2014	Field	10.0	0	0	0.00	-	1623-Precoat Mod.
BB43842	2PIS	8/26/2014	Field	10.1	0	0	0.00	-	1623-Precoat Mod.
BB43847	2PIS	8/26/2014	MS	10.1	99	18	1.78	18.2	1623-Precoat Mod.
BB43843	2PIS	8/26/2014	Field	10.1	0	0	0.00	-	1623-Precoat Mod.
BB43844	2PIS	8/26/2014	Field	10.0	0	0	0.00	-	1623-Precoat Mod.
BB43845	2PIS	8/26/2014	Field	10.1	0	0	0.00	-	1623-Precoat Mod.
BB43846	2PIS	8/26/2014	Field	10.0	0	0	0.00	-	1623-Precoat Mod.

Notes: NA

ASI Data Quality Statement:

All data reported above, unless otherwise noted, were generated in accordance with EPA Method 1623.

Reviewed by PSubarden

Date Reviewed: August 29, 2014



Nick Fish, Commissioner
David G. Shaff, Administrator
1120 SW 5th Avenue, Room 600
Portland, Oregon 97204-1926
Information: 503-823-7404
www.portlandoregon.gov/water



An Equal Opportunity Employer

DATE: October 9, 2014

WQ 0.10.14.4

TO: Oregon Health Authority
Drinking Water Services

**SUBJECT: Monthly Report for September 2014
Bull Run Treatment Variance
Intake *Cryptosporidium* Results
PWS # 4100657**

To Whom It May Concern:

Enclosed are results of laboratory analyses for *Cryptosporidium* from the Bull Run raw water intake for September. Monitoring for *Cryptosporidium* at the Bull Run intake is done to comply with the conditions of Portland's Bull Run Treatment Variance (OHA Final Order, March 14, 2012). PWB is currently in Observation Monitoring. Compliance turbidity readings at the intake for the reporting month were not greater than 2.0 NTU.

Analytical Services, Inc. completed the analysis for *Cryptosporidium* (see attached report). A summary of the results for the reporting month and the previous eleven months is shown in the table below:

***Cryptosporidium* Data Summary for the Reporting Month and the Previous Eleven Months.**

Date Range		Total Field Samples	Total Field Sample Volume (L)	Total No. Oocysts Counted in Field Samples	Total Matrix Spikes	Average Matrix Spike Recovery (%)
Reporting Month:	09/01/2014-09/30/2014	50	552.3	0	5	21.7
Previous 11 Months:	10/01/2013-08/31/2014	161	5109.3	0	22	41.8

If you have any questions regarding these results, please contact me at 503-823-6135.

Sincerely,

Ann Richter
Environmental Program Manager

Transmitted: Three pages (including this transmittal memo) emailed to dwp.dmce@state.or.us on this date.



Microbiological Testing, Research & Consulting
130 Allen Brook Ln., Williston VT 05495

Cryptosporidium Laboratory Analysis Report

<u>Water System Information</u>		<u>Sample Information</u>	
PWS ID:	OR4100657	Collection Month & Year:	September 2014
PWS Name:	Portland Water Bureau 1900 N Interstate Avenue Portland, Oregon 97227	Report Date:	October 3, 2014
County:	Multnomah	Monitoring Regime:	Observation
		Source Water:	Bull Run Intake - WTP-A

Analytical Services, Inc. (ASI)

PWB Sample ID	Loc ID	Sample Collection Date	Sample Type	Sample Volume Filtered (L)	No. of Oocysts Spiked	No. of Oocysts Counted	No. Oocysts per Liter	Matrix Spike Recovery (%)	Analysis Method
BB44043	2P	9/1/2014	Field	10.0	0	0	0.00		1623-Precoat Mod.
BB44044	2P	9/1/2014	Field	10.0	0	0	0.00		1623-Precoat Mod.
BB44045	2P	9/1/2014	Field	10.0	0	0	0.00		1623-Precoat Mod.
BB44046	2P	9/1/2014	Field	10.0	0	0	0.00		1623-Precoat Mod.
BB44047	2P	9/1/2014	Field	10.0	0	0	0.00		1623-Precoat Mod.
BB44090	2P	9/2/2014	Field	11.1	0	0	0.00		1623-Precoat Mod.
BB44091	2P	9/2/2014	Matrix Spike	11.0	98	19	1.72	19.4	1623-Precoat Mod.
BB44092	2P	9/2/2014	Field	11.0	0	0	0.00		1623-Precoat Mod.
BB44093	2P	9/2/2014	Field	11.1	0	0	0.00		1623-Precoat Mod.
BB44094	2P	9/2/2014	Field	11.0	0	0	0.00		1623-Precoat Mod.
BB44095	2P	9/2/2014	Field	11.0	0	0	0.00		1623-Precoat Mod.
BB44209	2P	9/7/2014	Field	11.1	0	0	0.00		1623-Precoat Mod.
BB44210	2P	9/7/2014	Field	11.2	0	0	0.00		1623-Precoat Mod.
BB44211	2P	9/7/2014	Field	11.0	0	0	0.00		1623-Precoat Mod.
BB44212	2P	9/7/2014	Field	11.2	0	0	0.00		1623-Precoat Mod.
BB44213	2P	9/7/2014	Field	11.2	0	0	0.00		1623-Precoat Mod.
BB44258	2P	9/9/2014	Field	11.3	0	0	0.00		1623-Precoat Mod.
BB44257	2P	9/9/2014	Matrix Spike	11.3	98	7	0.62	7.1	1623-Precoat Mod.
BB44259	2P	9/9/2014	Field	11.4	0	0	0.00		1623-Precoat Mod.
BB44260	2P	9/9/2014	Field	11.4	0	0	0.00		1623-Precoat Mod.
BB44261	2P	9/9/2014	Field	11.4	0	0	0.00		1623-Precoat Mod.
BB44262	2P	9/9/2014	Field	11.3	0	0	0.00		1623-Precoat Mod.
BB44427	2P	9/14/2014	Field	11.2	0	0	0.00		1623-Precoat Mod.
BB44428	2P	9/14/2014	Field	11.3	0	0	0.00		1623-Precoat Mod.
BB44429	2P	9/14/2014	Field	11.3	0	0	0.00		1623-Precoat Mod.
BB44430	2P	9/14/2014	Field	11.3	0	0	0.00		1623-Precoat Mod.
BB44431	2P	9/14/2014	Field	11.2	0	0	0.00		1623-Precoat Mod.
BB44494	2P	9/16/2014	Field	11.0	0	0	0.00		1623-Precoat Mod.
BB44495	2P	9/16/2014	Matrix Spike	11.1	98	9	0.81	9.2	1623-Precoat Mod.
BB44496	2P	9/16/2014	Field	11.0	0	0	0.00		1623-Precoat Mod.
BB44497	2P	9/16/2014	Field	11.1	0	0	0.00		1623-Precoat Mod.
BB44498	2P	9/16/2014	Field	11.0	0	0	0.00		1623-Precoat Mod.
BB44499	2P	9/16/2014	Field	11.0	0	0	0.00		1623-Precoat Mod.
BB44714	2P	9/21/2014	Field	10.9	0	0	0.00		1623-Precoat Mod.
BB44715	2P	9/21/2014	Field	11.0	0	0	0.00		1623-Precoat Mod.
BB44716	2P	9/21/2014	Field	11.0	0	0	0.00		1623-Precoat Mod.
BB44717	2P	9/21/2014	Field	11.0	0	0	0.00		1623-Precoat Mod.
BB44718	2P	9/21/2014	Field	11.0	0	0	0.00		1623-Precoat Mod.
BB44746	2P	9/23/2014	Field	11.3	0	0	0.00		1623-Precoat Mod.
BB44745	2P	9/23/2014	Matrix Spike	11.3	98	19	1.68	19.4	1623-Precoat Mod.
BB44747	2P	9/23/2014	Field	11.3	0	0	0.00		1623-Precoat Mod.
BB44748	2P	9/23/2014	Field	11.3	0	0	0.00		1623-Precoat Mod.

BB44749	2P	9/23/2014	Field	11.3	0	0	0.00		1623-Precoat Mod.
BB44750	2P	9/23/2014	Field	11.2	0	0	0.00		1623-Precoat Mod.
BB44908	2P	9/28/2014	Field	11.4	0	0	0.00		1623-Precoat Mod.
BB44909	2P	9/28/2014	Field	11.3	0	0	0.00		1623-Precoat Mod.
BB44910	2P	9/28/2014	Field	11.3	0	0	0.00		1623-Precoat Mod.
BB44911	2P	9/28/2014	Field	11.3	0	0	0.00		1623-Precoat Mod.
BB44912	2P	9/28/2014	Field	11.1	0	0	0.00		1623-Precoat Mod.
BB44979	2P	9/30/2014	Field	11.1	0	0	0.00		1623-Precoat Mod.
BB44980	2P	9/30/2014	Matrix Spike	11.1	99	53	4.79	53.5	1623-Precoat Mod.
BB44981	2P	9/30/2014	Field	11.1	0	0	0.00		1623-Precoat Mod.
BB44982	2P	9/30/2014	Field	11.1	0	0	0.00		1623-Precoat Mod.
BB44983	2P	9/30/2014	Field	11.2	0	0	0.00		1623-Precoat Mod.
BB44984	2P	9/30/2014	Field	11.0	0	0	0.00		1623-Precoat Mod.

Notes: NA

ASI Data Quality Statement:

All data reported above, unless otherwise noted, were generated in accordance with EPA Method 1623.

Reviewed by P. Swinden

Date Reviewed: October 3, 2014



Nick Fish, Commissioner
David G. Shaff, Administrator
1120 SW 5th Avenue, Room 600
Portland, Oregon 97204-1926
Information: 503-823-7404
www.portlandoregon.gov/water



An Equal Opportunity Employer

DATE: November 7, 2014

WQ 0.10.14.4

TO: Oregon Health Authority
Drinking Water Services

**SUBJECT: Monthly Report for October 2014
Bull Run Treatment Variance
Intake *Cryptosporidium* Results
PWS # 4100657**

To Whom It May Concern:

Enclosed are results of laboratory analyses for *Cryptosporidium* from the Bull Run raw water intake for October. Monitoring for *Cryptosporidium* at the Bull Run intake is done to comply with the conditions of Portland's Bull Run Treatment Variance (OHA Final Order, March 14, 2012). PWB is currently in Observation Monitoring. Compliance turbidity readings at the intake for the reporting month were not greater than 2.0 NTU.

Analytical Services, Inc. completed the analysis for *Cryptosporidium* (see attached report). A summary of the results for the reporting month and the previous eleven months is shown in the table below:

***Cryptosporidium* Data Summary for the Reporting Month and the Previous Eleven Months.**

Date Range		Total Field Samples	Total Field Sample Volume (L)	Total No. Oocysts Counted in Field Samples	Total Matrix Spikes	Average Matrix Spike Recovery (%)
Reporting Month:	10/01/2014-10/31/2014	40	445.4	0	4	29.4
Previous 11 Months:	11/01/2013-09/30/2014	170	5158.0	0	23	32.7

If you have any questions regarding these results, please contact me at 503-823-6135.

Sincerely,

Ann Richter
Environmental Program Manager

Transmitted: Two pages (including this transmittal memo) emailed to dwp.dmce@state.or.us on this date.



Microbiological Testing, Research & Consulting
130 Allen Brook Ln., Williston VT 05495

Cryptosporidium Laboratory Analysis Report

Water System Information		Sample Information	
PWS ID:	OR4100657	Collection Month & Year:	October 2014
PWS Name:	Portland Water Bureau 1900 N Interstate Avenue Portland, Oregon 97227	Report Date:	November 3, 2014
County:	Multnomah	Monitoring Regime:	Observation
		Source Water:	Bull Run Intake - WTP-A

Analytical Services, Inc. (ASI)									
PWB Sample ID	Loc ID	Sample Collection Date	Sample Type	Sample Volume Filtered (L)	No. of Oocysts Spiked	No. of Oocysts Counted	No. of Oocysts per Liter	Matrix Spike Recovery (%)	Analysis Method
BB45123	2PIS	10/5/2014	Field	11.0	0	0	0.00		1623-Precoat Mod.
BB45124	2PIS	10/5/2014	Field	11.1	0	0	0.00		1623-Precoat Mod.
BB45125	2PIS	10/5/2014	Field	11.1	0	0	0.00		1623-Precoat Mod.
BB45126	2PIS	10/5/2014	Field	11.1	0	0	0.00		1623-Precoat Mod.
BB45127	2PIS	10/5/2014	Field	11.2	0	0	0.00		1623-Precoat Mod.
BB45184	2PIS	10/7/2014	Field	11.0	0	0	0.00		1623-Precoat Mod.
BB45183	2PIS	10/7/2014	Matrix Spike	11.3	100	83	7.37	83.0	1623-Precoat Mod.
BB45185	2PIS	10/7/2014	Field	11.2	0	0	0.00		1623-Precoat Mod.
BB45186	2PIS	10/7/2014	Field	11.2	0	0	0.00		1623-Precoat Mod.
BB45187	2PIS	10/7/2014	Field	11.2	0	0	0.00		1623-Precoat Mod.
BB45188	2PIS	10/7/2014	Field	11.1	0	0	0.00		1623-Precoat Mod.
BB45372	2P	10/12/2014	Field	11.1	0	0	0.00		1623-Precoat Mod.
BB45373	2P	10/12/2014	Field	11.3	0	0	0.00		1623-Precoat Mod.
BB45374	2P	10/12/2014	Field	11.2	0	0	0.00		1623-Precoat Mod.
BB45375	2P	10/12/2014	Field	11.3	0	0	0.00		1623-Precoat Mod.
BB45376	2P	10/12/2014	Field	11.1	0	0	0.00		1623-Precoat Mod.
BB45483	2P	10/14/2014	Field	10.9	0	0	0.00		1623-Precoat Mod.
BB45484	2P	10/14/2014	Matrix Spike	11.0	99	0	0.00	0.0	1623-Precoat Mod.
BB45485	2P	10/14/2014	Field	11.1	0	0	0.00		1623-Precoat Mod.
BB45486	2P	10/14/2014	Field	11.0	0	0	0.00		1623-Precoat Mod.
BB45487	2P	10/14/2014	Field	10.9	0	0	0.00		1623-Precoat Mod.
BB45488	2P	10/14/2014	Field	11.1	0	0	0.00		1623-Precoat Mod.
BB45686	2P	10/19/2014	Field	11.0	0	0	0.00		1623-Precoat Mod.
BB45687	2P	10/19/2014	Field	11.1	0	0	0.00		1623-Precoat Mod.
BB45688	2P	10/19/2014	Field	11.1	0	0	0.00		1623-Precoat Mod.
BB45689	2P	10/19/2014	Field	11.2	0	0	0.00		1623-Precoat Mod.
BB45690	2P	10/19/2014	Field	11.0	0	0	0.00		1623-Precoat Mod.
BB45782	2P	10/21/2014	Field	11.2	0	0	0.00		1623-Precoat Mod.
BB45781	2P	10/21/2014	Matrix Spike	11.2	99	7	0.62	7.1	1623-Precoat Mod.
BB45783	2P	10/21/2014	Field	11.3	0	0	0.00		1623-Precoat Mod.
BB45784	2P	10/21/2014	Field	11.3	0	0	0.00		1623-Precoat Mod.
BB45785	2P	10/21/2014	Field	11.3	0	0	0.00		1623-Precoat Mod.
BB45786	2P	10/21/2014	Field	11.3	0	0	0.00		1623-Precoat Mod.
BB45976	2P	10/26/2014	Field	11.1	0	0	0.00		1623-Precoat Mod.
BB45977	2P	10/26/2014	Field	11.3	0	0	0.00		1623-Precoat Mod.
BB45978	2P	10/26/2014	Field	11.3	0	0	0.00		1623-Precoat Mod.
BB45979	2P	10/26/2014	Field	11.3	0	0	0.00		1623-Precoat Mod.
BB45980	2P	10/26/2014	Field	11.1	0	0	0.00		1623-Precoat Mod.
BB46054	2P	10/28/2014	Field	11.0	0	0	0.00		1623-Precoat Mod.
BB46055	2P	10/28/2014	Matrix Spike	11.1	99	27	2.44	27.3	1623-Precoat Mod.
BB46056	2P	10/28/2014	Field	11.0	0	0	0.00		1623-Precoat Mod.
BB46057	2P	10/28/2014	Field	11.2	0	0	0.00		1623-Precoat Mod.
BB46058	2P	10/28/2014	Field	11.0	0	0	0.00		1623-Precoat Mod.
BB46059	2P	10/28/2014	Field	11.1	0	0	0.00		1623-Precoat Mod.

Notes: NA

ASI Data Quality Statement:

All data reported above, unless otherwise noted, were generated in accordance with EPA Method 1623.

Reviewed by PSwanden

Date Reviewed: November 3, 2014



Nick Fish, Commissioner
David G. Shaff, Administrator
1120 SW 5th Avenue, Room 600
Portland, Oregon 97204-1926
Information: 503-823-7404
www.portlandoregon.gov/water



An Equal Opportunity Employer

DATE: December 9, 2014

WQ 0.10.14.4

TO: Oregon Health Authority
Drinking Water Services

SUBJECT: Monthly Report for November 2014
Bull Run Treatment Variance
Intake *Cryptosporidium* Results
PWS # 4100657

To Whom It May Concern:

Enclosed are results of laboratory analyses for *Cryptosporidium* from the Bull Run raw water intake for November. Monitoring for *Cryptosporidium* at the Bull Run intake is done to comply with the conditions of Portland's Bull Run Treatment Variance (OHA Final Order, March 14, 2012). PWB is currently in Observation Monitoring. Compliance turbidity readings at the intake for the reporting month were not greater than 2.0 NTU.

Analytical Services, Inc. completed the analysis for *Cryptosporidium* (see attached report). A summary of the results for the reporting month and the previous eleven months is shown in the table below:

***Cryptosporidium* Data Summary for the Reporting Month and the Previous Eleven Months.**

Date Range		Total Field Samples	Total Field Sample Volume (L)	Total No. Oocysts Counted in Field Samples	Total Matrix Spikes	Average Matrix Spike Recovery (%)
Reporting Month:	11/01/2014-11/30/2014	45	500.5	0	4	38.1
Previous 11 Months:	12/01/2013-10/31/2014	202	5203.4	0	25	32.0

If you have any questions regarding these results, please contact me at 503-823-6135.

Sincerely,

Ann Richter
Environmental Program Manager

Transmitted: Three pages (including this transmittal memo) emailed to dwp.dmce@state.or.us on this date.



Microbiological Testing, Research & Consulting
130 Allen Brook Ln., Williston VT 05495

Cryptosporidium Laboratory Analysis Report

Water System Information		Sample Information	
PWS ID:	OR4100657	Collection Month & Year:	November 2014
PWS Name:	Portland Water Bureau 1900 N Interstate Avenue Portland, Oregon 97227	Report Date:	December 1, 2014
County:	Multnomah	Monitoring Regime:	Observation
		Source Water:	Bull Run Intake - WTP-A

Analytical Services, Inc. (ASI)

PWB Sample ID	Loc ID	Sample Collection Date	Sample Type	Sample Volume Filtered (L)	No. of Oocysts Spiked	No. of Oocysts Counted	No. Oocysts per Liter	Matrix Spike Recovery (%)	Analysis Method
BB46147	2P	11/2/2014	Field	11.1	0	0	0.00		1623-Precoat Mod.
BB46148	2P	11/2/2014	Field	11.0	0	0	0.00		1623-Precoat Mod.
BB46149	2P	11/2/2014	Field	11.1	0	0	0.00		1623-Precoat Mod.
BB46150	2P	11/2/2014	Field	11.1	0	0	0.00		1623-Precoat Mod.
BB46151	2P	11/2/2014	Field	11.1	0	0	0.00		1623-Precoat Mod.
BB46212	2P	11/4/2014	Field	11.2	0	0	0.00		1623-Precoat Mod.
BB46211	2P	11/4/2014	Matrix Spike	11.3	99	28	2.48	28.3	1623-Precoat Mod.
BB46213	2P	11/4/2014	Field	11.3	0	0	0.00		1623-Precoat Mod.
BB46214	2P	11/4/2014	Field	11.3	0	0	0.00		1623-Precoat Mod.
BB46215	2P	11/4/2014	Field	11.4	0	0	0.00		1623-Precoat Mod.
BB46216	2P	11/4/2014	Field	11.1	0	0	0.00		1623-Precoat Mod.
BB46494	2P	11/9/2014	Field	11.3	0	0	0.00		1623-Precoat Mod.
BB46495	2P	11/9/2014	Field	11.2	0	0	0.00		1623-Precoat Mod.
BB46496	2P	11/9/2014	Field	11.2	0	0	0.00		1623-Precoat Mod.
BB46497	2P	11/9/2014	Field	11.2	0	0	0.00		1623-Precoat Mod.
BB46498	2P	11/9/2014	Field	11.1	0	0	0.00		1623-Precoat Mod.
BB46563	2P	11/11/2014	Field	11.1	0	0	0.00		1623-Precoat Mod.
BB46564	2P	11/11/2014	Matrix Spike	11.0	99	22	1.99	22.2	1623-Precoat Mod.
BB46565	2P	11/11/2014	Field	11.1	0	0	0.00		1623-Precoat Mod.
BB46566	2P	11/11/2014	Field	11.0	0	0	0.00		1623-Precoat Mod.
BB46567	2P	11/11/2014	Field	11.1	0	0	0.00		1623-Precoat Mod.
BB46568	2P	11/11/2014	Field	11.2	0	0	0.00		1623-Precoat Mod.
BB46680	2P	11/16/2014	Field	11.0	0	0	0.00		1623-Precoat Mod.
BB46681	2P	11/16/2014	Field	11.0	0	0	0.00		1623-Precoat Mod.
BB46682	2P	11/16/2014	Field	11.0	0	0	0.00		1623-Precoat Mod.
BB46683	2P	11/16/2014	Field	11.0	0	0	0.00		1623-Precoat Mod.
BB46684	2P	11/16/2014	Field	10.9	0	0	0.00		1623-Precoat Mod.
BB46725	2P	11/18/2014	Field	11.3	0	0	0.00		1623-Precoat Mod.
BB46726	2P	11/18/2014	Field	11.2	0	0	0.00		1623-Precoat Mod.
BB46727	2P	11/18/2014	Field	11.3	0	0	0.00		1623-Precoat Mod.
BB46728	2P	11/18/2014	Field	11.1	0	0	0.00		1623-Precoat Mod.
BB46724	2P	11/18/2014	Field	11.2	0	0	0.00		1623-Precoat Mod.
BB46723	2P	11/18/2014	Matrix Spike	11.2	99	44	3.93	44.4	1623-Precoat Mod.
BB46903	2P	11/23/2014	Field	11.1	0	0	0.00		1623-Precoat Mod.
BB46904	2P	11/23/2014	Field	11.2	0	0	0.00		1623-Precoat Mod.
BB46905	2P	11/23/2014	Field	11.2	0	0	0.00		1623-Precoat Mod.
BB46906	2P	11/23/2014	Field	11.2	0	0	0.00		1623-Precoat Mod.
BB46907	2P	11/23/2014	Field	11.2	0	0	0.00		1623-Precoat Mod.
BB46912	2P	11/24/2014	Field	11.1	0	0	0.00		1623-Precoat Mod.
BB46911	2P	11/24/2014	Matrix Spike	11.2	99	57	5.08	57.6	1623-Precoat Mod.

BB46913	2P	11/24/2014	Field	11.1	0.00	0	0.00		1623-Precoat Mod.
BB46914	2P	11/24/2014	Field	11.2	0.00	0	0.00		1623-Precoat Mod.
BB46915	2P	11/24/2014	Field	11.0	0.00	0	0.00		1623-Precoat Mod.
BB46916	2P	11/24/2014	Field	11.1	0.00	0	0.00		1623-Precoat Mod.
BB47026	2P	11/30/2014	Field	11.1	0.00	0	0.00		1623-Precoat Mod.
BB47027	2P	11/30/2014	Field	11.0	0.00	0	0.00		1623-Precoat Mod.
BB47028	2P	11/30/2014	Field	11.0	0.00	0	0.00		1623-Precoat Mod.
BB47029	2P	11/30/2014	Field	10.9	0.00	0	0.00		1623-Precoat Mod.
BB47030	2P	11/30/2014	Field	10.9	0.00	0	0.00		1623-Precoat Mod.

Notes: NA

ASI Data Quality Statement:

All data reported above, unless otherwise noted, were generated in accordance with EPA Method 1623.

Reviewed by PSwanden

Date Reviewed: December 1, 2014



Nick Fish, Commissioner
David G. Shaff, Administrator
1120 SW 5th Avenue, Room 600
Portland, Oregon 97204-1926
Information: 503-823-7404
www.portlandoregon.gov/water



An Equal Opportunity Employer

DATE: January 7, 2015 WQ 0.10.14.4
TO: Oregon Health Authority
Drinking Water Services

**SUBJECT: Monthly Report for December 2014
Bull Run Treatment Variance
Intake *Cryptosporidium* Results
PWS # 4100657**

To Whom It May Concern:

Enclosed are results of laboratory analyses for *Cryptosporidium* from the Bull Run raw water intake for December. Monitoring for *Cryptosporidium* at the Bull Run intake is done to comply with the conditions of Portland's Bull Run Treatment Variance (OHA Final Order, March 14, 2012). PWB is currently in Observation Monitoring. Compliance turbidity readings at the intake for the reporting month were not greater than 2.0 NTU.

Analytical Services, Inc. completed the analysis for *Cryptosporidium* (see attached report). A summary of the results for the reporting month and the previous eleven months is shown in the table below:

***Cryptosporidium* Data Summary for the Reporting Month and the Previous Eleven Months.**

Date Range		Total Field Samples	Total Field Sample Volume (L)	Total No. Oocysts Counted in Field Samples	Total Matrix Spikes	Average Matrix Spike Recovery (%)
Reporting Month:	12/01/2014-12/31/2014	9	450.0	0	2	32.9
Previous 11 Months:	01/01/2014-11/30/2014	232	4949.7	0	28	32.5

If you have any questions regarding these results, please contact me at 503-823-6135.

Sincerely,

Ann Richter
Environmental Program Manager

Transmitted: Two pages (including this transmittal memo) emailed to dwp.dmce@state.or.us on this date.



Microbiological Testing, Research & Consulting
130 Allen Brook Ln., Williston VT 05495

Cryptosporidium Laboratory Analysis Report

<u>Water System Information</u>		<u>Sample Information</u>	
PWS ID:	OR4100657	Collection Month & Year:	December 2014
PWS Name:	Portland Water Bureau 1900 N Interstate Avenue Portland, Oregon 97227	Report Date:	January 5, 2015
County:	Multnomah	Monitoring Regime:	Observation
		Source Water:	Bull Run Intake - WTP-A

Analytical Services, Inc. (ASI)

PWB Sample ID	Loc ID	Sample Collection Date	Sample Type	Sample Volume Filtered (L)	No. of Oocysts Spiked	No. of Oocysts Counted	No. Oocysts per Liter	Matrix Spike Recovery (%)	Analysis Method
BB47051	2P	12/1/2014	Field	50.0	0	0	0.00		EPA 1623
BB47050	2P	12/1/2014	Matrix Spike	51.0	99	37	0.73	37.4	EPA 1623
BB47276	2P	12/7/2014	Field	50.0	0	0	0.00		EPA 1623
BB47281	2P	12/9/2014	Field	50.0	0	0	0.00		EPA 1623
BB47282	2P	12/9/2014	Matrix Spike	50.7	99	28	0.55	28.3	EPA 1623
BB47415	2P	12/14/2014	Field	50.0	0	0	0.00		EPA 1623
BB47441	2P	12/16/2014	Field	50.0	0	0	0.00		EPA 1623
BB47605	2P	12/21/2014	Field	50.0	0	0	0.00		EPA 1623
BB47607	2P	12/22/2014	Field	50.0	0	0	0.00		EPA 1623
BB47666	2P	12/28/2014	Field	50.0	0	0	0.00		EPA 1623
BB47685	2P	12/29/2014	Field	50.0	0	0	0.00		EPA 1623

Notes: NA

ASI Data Quality Statement:

All data reported above, unless otherwise noted, were generated in accordance with EPA Method 1623.

Reviewed by PSwarden

Date Reviewed: January 5, 2015